

**Features**

- XAUI Electrical Interface: 4 Lanes @ 3.125Gbit/s
- Cooled 1550nm EML and PIN receiver
- Hot Z-Pluggable
- SC-Duplex Optical Receptacle
- MDIO, DOM Support
- Compliant to X2 MSA
- Compliant to IEEE 802.3ae 10GBASE-ER Application
- Case operating temperature: 0 to 70 °C



**Applications**

- IEEE 802.3ae as 10GBASE-ER, X2 MSA Release1.0b

**Optical Characteristics**

Parameters	Symbols	Min.	Typ.	Max.	Unit	NOTE
Center Wavelength	$\lambda_C$	1530	1550	1570	nm	
Signaling speed		-	10.3125	-	Gbit/s	
Signaling speed variation from nominal		-100	-	+100	ppm	
Optical modulation amplitude	OMA	-2.1	-	-	dBm	
Optical Output Power	Pf	-1	-	+4	dBm	
Side Mode Suppression Ratio	SMSR	30	-	-	dB	
Extinction Ratio	ER	8.2	-	-	dB	
Off Transmit Power	Poff	-	-	-30	dBm	
Receiver Sensitivity in	Rsense	-	-	-16.5	dBm	
Receiver Overload	Rro	+0.5	-	-	dBm	
Receiver Return Loss	RL	12	-	-	dB	

**Electrical Performance**

**Power Supply Characteristics**

Parameter	Symbol	Min.	Typ.	Max.	Unit	NOTE
Supply Voltage	VCC1	3.135	3.300	3.465	V	
Supply Voltage	VCC2	1.152	1.200	1.248	V	
Supply Current	ICC1	-	-	1.2	A	
Supply Current	ICC2	-	-	1.7	A	

Power Consumption	PDS	-	-	4.0	W	
Power supply stabilization time	TDF	-	-	500	ms	
Initialization Time	TINIT	-	-	5	s	
RESET Assert Time	TRESET	1	-	-	ms	
Hold Time after rising edge of RESET	THOLD	500	-	-	ms	

### XAUI Driver Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	NOTE
Baud Rate		-	3.125	-	Gbit/s	
Baud Rate Tolerance		-100	-	+100	ppm	
Differential Amplitude		800	-	1600	mVPP	AC, near-end value

### 1.2V CMOS Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	NOTE
Input High Voltage	VIH	0.84	-	1.5	V	
Input Low Voltage	VIL	-0.3	-	0.36	V	
Input Pull-down Current	IIn	20	40	120	μA	Vih=1.2V
Output High Voltage	VOH	1.0	-	-	V	Pull-up=10k ohm to 1.2V
Output Low Voltage	VOL	-	-	0.2	V	
Pull up Resistance	RLAS1	10	-	22	k ohm	
Capacitance	CLAS1	-	-	10	pF	
Load Capacitance	CLoad	-	-	320	pF	

### MDIO Bidirectional Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	NOTE
Input High Voltage	VIHM	0.84	-	1.5	V	
Input Low Voltage	VILM	-0.3	-	0.36	V	
Output High Voltage	VOHM	1.0	-	1.5	V	
Output Low Voltage	VOLM	-0.3	-	0.2	V	
Pull up Resistance	RMDIO	200	-		Ohm	1
MDC min high/low time	THM,TLM	160	-	-	ns	
MDC Frequency	1/TCK	TBD	-	2.5	MHz	

Setup time	TDIS	10	-	-	ns	
Hold time	TDIH	10	-	-	ns	
MDIO output delay after rising edge of MDC	TPD	0	-	300	ns	
Input Capacitance	Ci	-	-	10	pF	
Bus Loading	CL	-	-	470	pF	

Note:1.The maximum value of RMDIO depends on bus loading(CL), input capacitance(Ci),and MDC frequency(1/TCK).

### Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-X2-ER4</b>	Starview X2 module, 10G LAN supporting data rate 10.3Gbps 1550nm SM (SC), distance up to 40km	-1 to 4	-16.5 to 0.5	15.5	40	NO